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IS 4580 (1986): Brushes, shaving [CHD 24: Brushware]

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IS : 4580 - 1986

Indian Standard
SPECIFICATION FOR BRUSHES, SHAVING
(First Revision)

UDC 687.974



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INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Gr 3

March 1987

AMENDMENT NO. 3 AUGUST 2006
TO
IS 4580 : 1986 SPECIFICATION FOR BRUSHES,
SHAVING
(*First Revision*)

(*Page 6, clause 4.3.2.1*) — Insert the following matter at the end:

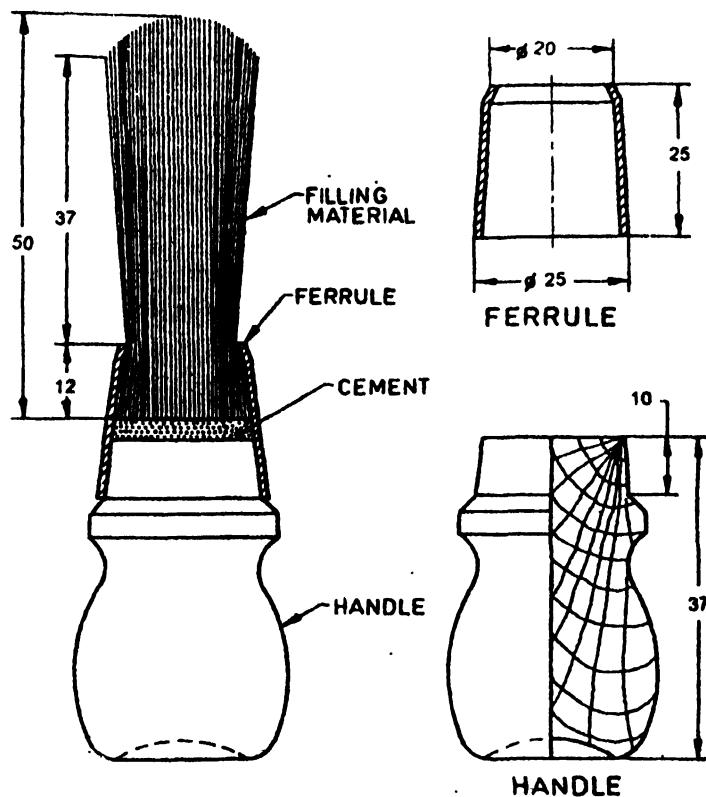
'Suitable plug made of plastic/nylon/fibre reinforced plastic (FRP) is to be pushed inside the bristles tightly before putting the setting cement.'

(*Page 7, Fig. 2*) — Substitute the figure given on page 2 for the existing.

(*Page 8, clause 5.3.1*) — Add the following clause at the end:

'5.4 Mass of Bristles for Grade 2

The total mass of bristles per brush in case of Grade 2 when determined by removal of the setting compound shall be at least 17 g.'



All dimensions in millimetres.

FIG. 2 BRUSHES, SHAVING, GRADE 2

(CHD 24)

**AMENDMENT NO. 2 SEPTEMBER 2004
TO
IS 4580 : 1986 SPECIFICATION FOR
BRUSHES, SHAVING**

(*First Revision*)

(*Page 8, clause 7.1*) — Substitute 'Lindane 6.5% DP (see IS 14834 : 2000†) or methyl parathion 2% DP (see IS 8960 : 1978§)' for 'DDT dusting powder (see IS : 564-1975†)'.

(*Page 8, footnote marked '†'*) — Substitute the following for the existing:

'†Lindane dusting powder — Specification.'

(*Page 8, footnotes*) — Insert the following footnote at the end:

'§Specification for methyl parathion dusting powders.'

(CHD 24)

AMENDMENT NO. 1 APRIL 1991

TO

IS 4580 : 1986 SPECIFICATION FOR BRUSHES, SHAVING

(First Revision)

Fig. 2 (Page 7, Fig. 2) - Delete the dimension '70' from
Fig. 2 Brushes, Shaving, Grade 2.

(CHD 31)

Reprography Unit, BIS, New Delhi, India

Indian Standard
SPECIFICATION FOR BRUSHES, SHAVING
(First Revision)

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(Continued on page 2)

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(*Continued from page 1*)

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Indian Standard
SPECIFICATION FOR BRUSHES, SHAVING
(First Revision)

0. FOREWORD

0.1 This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 30 April 1986, after the draft finalized by the Brushware Sectional Committee had been approved by the Chemical Division Council.

0.2 Shaving brushes constitute an item of everyday use. It is also required by the Defence Services in sufficient quantity. In the preparation of this standard, the Committee had freely drawn upon the experience of all interests concerned and had derived considerable help from IND/GS/1487 (a)-1971 'Brushes, shaving' issued by the Ministry of Defence, Government of India.

0.3 This standard was first published in 1968. In the initial specification, the shape and design for the shaving brushes have been left open to the choice of the buyers and the manufacturers. The scope for the change in the pattern of the shaving brushes tends for the change in the behaviour of the brushes in use. This is a factor leading to the confusion of the consumers for their correct selection of the brushes. The object of the standardization would be defeated if a very wide range of product shapes and designs are left open.

0.3.1 An illustration showing details about the composition of the brushes has been included in this revision to meet the material requirements of the brushes and to give a clear-cut conception about the shape and design of the brushes as well as to approach towards fulfilment of the aim of standardization.

0.4 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified values in this standard.

*Rules for rounding off numerical values (*revised*).

1. SCOPE

1.1 This standard prescribes the requirements and the methods of sampling and test for shaving brushes manufactured from nylon monofilaments or bristles.

2. TERMINOLOGY

2.1 For the purpose of this standard, the definitions given in 2 of IS : 384-1979* shall apply.

3. GRADES AND TYPES

3.1 Grades — There shall be two grades of shaving brushes, namely, Grade 1 for defence use and Grade 2 for normal marketing.

3.2 Types — Each grade of shaving brush shall be of the following two types, depending on the type of filling material:

Type	Filling Material
1	Nylon monofilaments
2	Bristles

4. REQUIREMENTS

4.1 Materials

4.1.0 Shaving brushes shall be manufactured from the following materials.

4.1.1 Filling Materials — It shall be either white nylon monofilaments of type 6, 66 or 610 of diameter 0.15 mm (*see IS : 1843-1963†*) or of only natural colour, special grade soft or stiff/semi stiff bristles (*see IS : 1844-1975‡*).

4.1.1.1 As regards colour, lustre and stiffness, the filling material for both types 1 and 2 brushes shall match those used in the approved tender samples.

4.1.2 Handle — The handle shall be made of timber or of plastic.

4.1.2.1 The plastic handle shall be of high density thermosetting or thermoplastic resin.

*Specification for brushes, paints and varnishes, flat (*fourth revision*).

†Specification for nylon-monofilaments.

‡Specification for bristles (*first revision*).

4.1.2.2 Any of the timber species listed in Appendix A shall be used in the manufacture of the wooden portion of the brush.

4.1.2.3 The timber shall be reasonably straight-grained and well-seasoned to a moisture content not exceeding 15 percent when tested by an electronic moisture meter method. In case of dispute, the oven-dry method shall be used (*see Appendix B*).

4.1.2.4 The timber shall be free from brashness, any kind of decay (rot), insect attack, centre heart (pith), knots (except pin knots), cracks, warp and any other defect which may reduce the life of the brush or affect its utility.

4.1.3 Ferrule (for Timber Handle) — The ferrule shall be made of 0.71 ± 0.10 mm thick aluminium sheet or suitable plastic material or brass nickel ferrule. The plastic ferrule shall be of one piece and tapped to fit the threaded plastic handle. The threaded portion of the handle shall not extend less than 8 mm inside the ferrule.

4.1.4 Cement — Any suitable cement capable of satisfying the tests specified under **5.1** and **5.2** may be used.

4.1.4.1 Vulcanized rubber setting may be used subject to agreement between the purchaser and the supplier.

4.2 Dimensions and Tolerances

4.2.1 Dimensions — The Grade 1 shaving brushes shall conform to the dimensions as given in Fig. 1. For Grade 2 shaving brushes, the dimensions shall conform to those given in Fig. 2.

4.2.2 The tolerance on the linear dimensions of handle and ferrule shall be as follows:

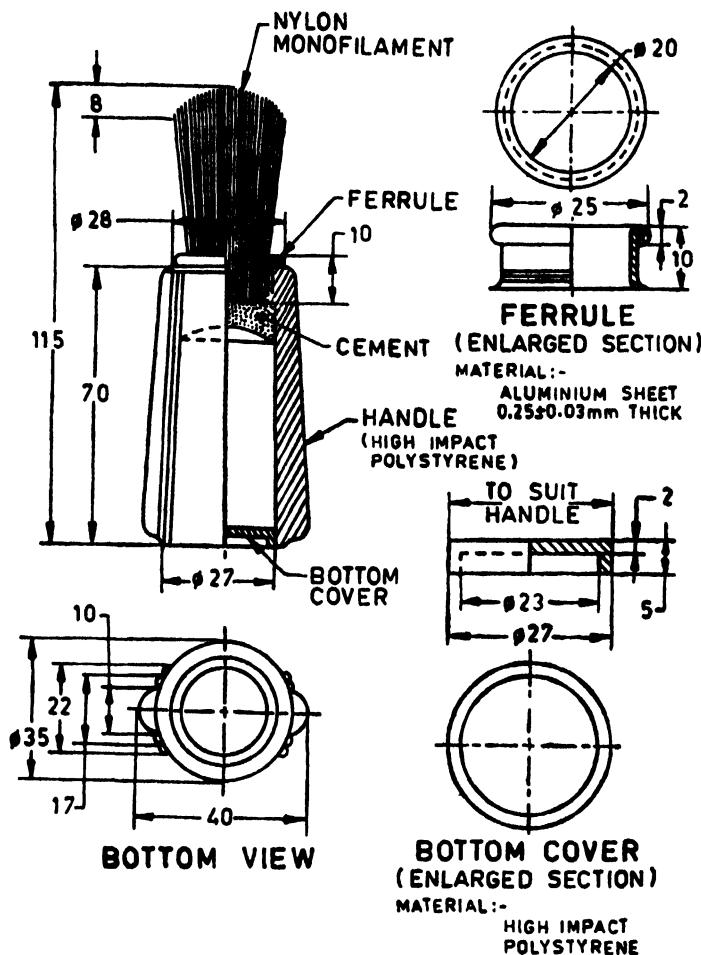
<i>Nominal Size</i>	<i>Tolerance</i>
mm	mm
Up to 15	± 1.0
Over 15 but below 40	± 2.0
40 and above	± 3.0

A tolerance of ± 1.0 mm may be allowed on the diameter of handle.

4.2.2.1 The above tolerance shall not apply to bristles for which minimum lengths have been prescribed in Fig 2.

4.3 Manufacture

4.3.1 The shape and design for Grade 1 and Grade 2, shaving brushes shall be as shown in Fig. 1 and 2 respectively.

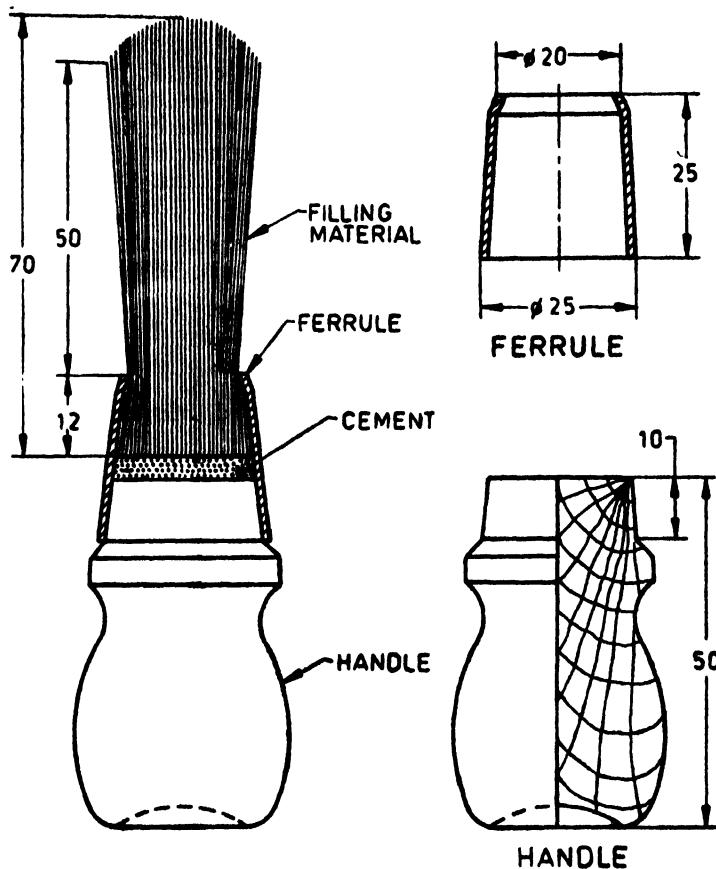


All dimensions in millimetres.

FIG. 1 BRUSHES, SHAVING, GRADE 1

4.3.2 The ferrule shall be fully filled with the filling materials compactly.

4.3.2.1 The filling material shall be rigidly set inside the ferrule with the setting compound as prescribed in 4.1.4 and 4.1.4.1. In no case the hard mass of the setting compound shall appear out of the top of the ferrule.



All dimensions in millimetres.

FIG. 2 BRUSHES, SHAVING, GRADE 2

4.3.3 The handle shall be tight-fit into the ferrule by means of clinching or adhesive.

5. TESTS

5.0 Tests shall be conducted in accordance with the methods prescribed in **5.1** to **5.4**.

5.1 Pull Test — The cement shall not fail when a small bunch of filling material is subjected to a straight pull with thumb and finger grip.

5.2 Oven Test

5.2.1 The brush is placed in an oven with the brush head downward and subjected to a temperature of $60 \pm 2^{\circ}\text{C}$ for two hours. There shall be no appreciable creeping of the setting compound during or after the test. After cooling the brush in air for 30 minutes the anchorage of the filling material shall not become loose and the brush shall satisfy the pull test as prescribed in **5.1**.

5.3 Detection of Dyed Bristles — The following two methods shall be utilized for detection of dyed bristles when tested as prescribed in Appendix C of IS : 1844-1975*.

Method A — by microscopic examination, and

Method B — by sand paper test.

5.3.1 Method A shall be referee method and Method B for routine testing.

6. PACKING AND MARKING

6.1 Packing — The shaving brushes shall be wrapped with cellulose paper or polyethylene film so as to ensure retention of the preservative and shall further be packed in card-boxes or as agreed to between the purchaser and the supplier.

6.2 Marking — Unless otherwise agreed to between the indentor or inspection authority and the supplier, each brush shall be legibly and indelibly marked with the manufacturer's name or recognized trade-mark, if any, name, grade and type of the material, and year of manufacture.

6.2.1 The brushes may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standard Institution.

7. PRESERVATION

7.1 The filling material of the bristle filled brushes shall be liberally dusted with a mixture of 5 parts (by mass) of DDT dusting powder (*see* IS : 564-1975†) and 95 parts by mass of French chalk (*see* IS : 380-1978‡).

*Specification for bristles (*first revision*).

†Specification for DDT dusting powders (*second revision*).

‡Specification for French chalk (*second revision*).

8. SAMPLING

8.1 The method of drawing representative samples of the material shall be as prescribed in Appendix C.

APPENDIX A

(Clause 4.1.2.2)

SPECIES OF TIMBER FOR MANUFACTURE OF WOODEN PORTION OF BRUSHES, SHAVING

A-1. The list of species of timber approved for the manufacture of wooden portion of shaving brushes is given below:

<i>Trade Name</i>	<i>Botanical Name</i>
Roman	Devanagari
aini	ऐनी <i>Artocarpus hirsuta</i> Lamk., fam. Moraceae
banati	बनाती <i>Lophopetalum wightianum</i> Arn., fam. Celastraceae
bijasal	बीजसाल <i>Pterocarpus marsupium</i> Roxb., fam. Leguminosae
champak	चम्पक <i>Michelia champaca</i> Linn., fam. Magnoliaceae
chickrassi	चिकरासी <i>Chukrasia tabularis</i> A. Juss., fam. Meliaceae
dhaman	धामन <i>Grewia tiliifolia</i> Vahl., fam. Tiliaceae
gamari (gumhar)	गमारी (गुम्हार) <i>Gmelina arborea</i> Roxb., fam, Verbenaceae
haldu	हल्दु <i>Adina cordifolia</i> Hook, f, fam. Rubiaceae
kaim	कैम <i>Mitragyna parvifolia</i> (Roxb.) Korth., syn. <i>Stephogyne parvifolia</i> Korth., fam. Rubiaceae
kanju	कांजू <i>Holoptelea integrifolia</i> Planch., fam. Ulmaceae

<i>Trade Name</i>	<i>Botanical Name</i>	
Roman	Devanagari	
kathal	कठल	<i>Artocarpus heterophyllus</i> Lamk., syn., <i>A. integrifolia</i> Linn, f, fam. Moraceae
kuthan	कूथन	<i>Hymenodictyon excelsum</i> Wall., Rubiaceae
lambapatti	लम्बापत्ती	<i>Planchonella longipetiolatum</i> H. J. Lam., syn. <i>Sideroxylon longi- petiolatum</i> King et Prain, fam. Sapotaceae
aam	आम	<i>Magnifera indica</i> Linn., fam. Anacardiaceae
nim-chameli	नीम-चमेली	<i>Millingtonia hortensis</i> Linn, f, fam. Bignoniaceae
kodapalai	कोडपलई	<i>Kingiodendron pinnatum</i> Roxb. Harms, syn.
choupaini (piney)	चौपानी (पिने)	<i>Hardwickia pinnata</i> Roxb., fam. Leguminosea
toon	तून	<i>Toona ciliata</i> Roem , syn. <i>Cedrela toona</i> Roxb., fam. Maliaceae

A P P E N D I X B

(Clause 4.1.2.3)

DETERMINATION OF MOISTURE CONTENT OF TIMBER

B-1. TEST SPECIMEN

B-1.1 The entire block in brushes, shaving, may form the test specimen for the determination of moisture content, or a coupon cut from the test specimen may as well be used for moisture content determination. When for any reason additional determination of moisture content is required, separate samples shall be prepared from the sample material as is used in preparing the test specimens. Smaller specimens may be used when deemed necessary. The test shall be carried out immediately after cutting the specimen.

B-2. PROCEDURE

B-2.1 Weigh accurately each test specimen. This specimen shall then be dried in a ventilated oven at a temperature of $105 \pm 2^{\circ}\text{C}$ until the mass becomes constant between two successive weighings made at an interval of not less than one hour.

B-3. CALCULATION

B-3.1 Moisture content, expressed as a

$$\text{percentage of the oven-dry mass} = 100 \times \frac{M_1 - M_0}{M_0}$$

where

M_1 = initial mass in g of the test specimen, and

M_0 = oven-dry mass in g of the test specimen.

APPENDIX C

(*Clause 8.1*)

SAMPLING AND CRITERIA FOR CONFORMITY OF BRUSHES, SHAVING

C-1. The supplier shall submit three identical brushes for approval.

C-1.1 The indentor or inspection authority shall retain one of the three samples approved against each item till the completion of the order.

C-2. PREPARATION OF TEST SAMPLES

C-2.0 Representative samples for test shall be selected at random in the manner indicated below.

C-2.1 Lot — In any consignment all the brushes of the same design and manufacture shall be grouped together to constitute a lot.

C-2.1.1 The conformity of the brushes in a lot to the requirements of this specification shall be ascertained for each lot separately. The number of brushes to be selected for this purpose shall be in accordance with col 1 of Table 1.

C-2.1.2 The brushes shall be selected at random from the top, middle and bottom portion of the box. If brushes in a lot are packed in more than one box, approximately equal number of brushes shall be selected at random from as many boxes as possible so as to obtain the required number of brushes for tests, as given in Table 1.

C-3. NUMBER OF TESTS AND CRITERIA FOR CONFORMITY

C-3.1 All the brushes selected according to **C-2.1.1** and **C-2.1.2** shall be examined for constructional requirements given in 4. Any brush not conforming to any one or more of these requirements shall be considered as a defective.

TABLE 1 SCALE OF SAMPLING AND PERMISSIBLE NUMBER OF DEFECTIVES

(*Clauses C-2.1.1, C-2.1.2, C-3.1.1 and C-3.2*)

NO. OF BRUSHES IN THE LOT	NO. OF BRUSHES TO BE SELECTED IN THE SAMPLE	PERMISSIBLE NO. OF DEFECTIVE BRUSHES IN THE SAMPLE	NO. OF BRUSHES IN THE SUB-SAMPLE
(1)	(2)	(3)	(4)
Up to 50	5	0	4
51 to 100	10	1	4
101 to 200	15	1	8
201 to 300	20	2	8
301 to 500	30	3	12
501 and above	40	3	16

C-3.1.1 The lot shall be declared as conforming to the requirements of 4 if the number of defective brushes is less than or equal to the number given in col 3 of Table 1.

C-3.2 In case the lot has been found satisfactory in **C-3.1.1**, a sub-sample of size given in col 4 of Table 1 shall be taken at random from the sampled brushes.

C-3.3 One-fourth of the brushes included in the sub-sample shall be taken and subjected to pull test (*see 5.1*).

C-3.3.1 The lot shall be declared as conforming to the requirements of pull test, if none of the brushes tested fail the test.

C-3.4 Another one-fourth sub-sample of brushes shall be taken and subjected to oven test (*see 5.2*).

C-3.4.1 The lot shall be declared as conforming to the requirements of oven test, if none of the brushes tested fail the test.

C-3.5 The third portion of the sub-sample shall be taken and subjected to the test for detection of dyed bristles (*see 5.3*).

C-3.5.1 The lot shall be declared as conforming to the requirements of this test, if none of the brushes tested fail the test.



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